

What is claimed is

1. An electronic endoscope system comprising:

an electronic endoscope having an insertion portion;

an image pickup device provided at a distal end of

5 said insertion portion;

an image signal processing device for converting a
signal picked-up by and output from the image pickup device
into an image signal;

a main light source;

10 an auxiliary light source which emits less amount of
light than the light emitted from the main light source,
instead of the main light source; and

a light guide member which guides illumination light
emitted from one of the main light source and the auxiliary
15 light source to the distal end of said insertion portion to
thereby emit the illumination light from said distal end;

wherein, when the auxiliary light source emits the
illumination light instead of the main light source, said
image signal processing device sets the gain of said signal
20 output from the image pickup device to a value higher than
the gain of said signal when the main light source emits
the illumination light, in order to process the image
signal.

2. The electronic endoscope system according to
25 claim 1, wherein said electronic endoscope system further

a processor unit to which the electronic endoscope is detachably attached, said processor unit being provided with said image signal processing device, said main light source and said auxiliary light source;

3. An electronic endoscope system comprising:

an image signal processing device for converting a signal picked-up by and output from the image pickup device into an image signal which can be displayed by a display device;

an auxiliary light source which emits less amount of light than the light emitted from the main light source, instead of the main light source; and

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light source to the distal end of said insertion portion to thereby emit said illumination light from said distal end;

wherein said image signal processing device performs a high-speed shutter operation in which the image pickup operation and the image signal output operation are repeated at a predetermined cycle when the main light source emits said illumination light; and performs a low-speed shutter operation in which the image pickup operation and the image signal output operation are repeated at a cycle longer than said predetermined cycle when said auxiliary light source emits said illumination light instead of said main light source.

4. The electronic endoscope system according to claim 3, wherein when said image signal processing device performs said low-speed shutter operation, the image pickup operation and the image signal output operation are repeated at a cycle which is represented said predetermined cycle multiplied by an integer value.

5. The electronic endoscope system according to claim 4, wherein said image signal processing device comprises a memory for storing the picked-up image signals for at least one field, so that when said image signal processing device performs said low-speed shutter operation, the stored image signals for said at least one field are read at said predetermined cycle and are converted into

image signals which can be displayed by said display device.

6. An electronic endoscope system comprising:

an electronic endoscope having an insertion portion;

an image pickup device provided at a distal end of
5 said insertion portion,

an image signal processing device for converting a
signal picked-up by and output from the image pickup device
into an image signal;

a main light source;

10 an auxiliary light source which emits less amount of
light than the light emitted from the main light source,
instead of the main light source; and

a light guide member which guides illumination light
emitted from one of the main light source and the auxiliary
15 light source to the distal end of said insertion portion to
thereby emit said illumination light from said distal end;

wherein, when the main light source emits the
illumination light, said image pickup device operates at a
high-speed shutter operation mode in which the image pickup
20 operation and the image signal output operation are
repeated at a predetermined cycle, so that said image
signal processing device processes the image signal output
from the image pickup device after the image signal is
amplified at a first gain; and when the auxiliary light
25 source emits the illumination light instead of the main

light source, said image pickup device operates at a low-speed shutter operation mode in which the image pickup operation and the image signal output operation are repeated at a cycle longer than said predetermined cycle, 5 so that said image processing device processes the image signal output from the image pickup device after the image signal is amplified at a second gain higher than the first gain.